

mounting block **43** located substantially centrally thereof and tilted to be angularly aligned with a corresponding one of the spring mounts **35** on the base **18**. The leaf spring **16** is correspondingly connected by a bolt to the mounting block **43**.

As illustrated in FIGS. **4** through **6**, the mounting bracket **42** includes an L-shaped bracket plate **46** which carries the spring-mounting block **43**. The spring-mounting block **43** is tabular shaped. The spring-mounting block is welded to the bracket plate directly, or can be formed therewith, or connected to a connecting plate which is bolted or welded to the mounting bracket (not shown).

The bracket plate **42** is L-shaped with a horizontal leg **48** which underlies a bottom wall portion **14a** of the trough **14**, and a vertical leg **50** which overlies a vertical wall portion **14b**. The horizontal leg **48** and the vertical leg **50** are welded to the bottom wall portion **14a** and side wall portion **14b** of the trough on outside surfaces thereof. Two parallel L-shaped welds along lateral sides of the horizontal leg **48** and the vertical leg **50** can be used to connect the bracket plate to the base **18**. The L-shaped configuration provides a much improved resistance to both shear and bending in both the plane of the side wall portion **14b** of the trough **14** as well as the plane of the bottom wall portion **14a** of trough **14**. The reinforcing is accomplished with the minimum of weight gain for the trough so that further spring force is not necessary to balance the mass of the trough with the spring constant.

In one presently preferred embodiment, the bracket has a dimension L of six inches and the dimension W of approximately one and seven-eighths inches. The dimension H is approximately four and three-eighths inches. The dimension C between the horizontal leg **48** and an aperture **52** for connecting a spring **16** to the block **43**, is approximately two and one eighth inches. A bolt and cooperating nut (not shown) are used to connect the spring **16** to the block, through the aperture **52**. The angular dimension D is approximately 25°. The bracket is advantageously composed of 304 stainless steel.

From the foregoing, it will be observed that numerous modifications and variations can be effected without departing from the spirit and scope of the novel concept of the present invention. It is to be understood that no limitation with respect to the specific embodiments disclosed herein is intended or should be inferred. The disclosure is intended to cover by the appended claims all such modifications as fall within the scope of the claims.

The invention claimed is:

1. A vibrating device for moving material, comprising:
 - a trough having a bottom wall and side walls, an edge defined between each of said side walls and said bottom wall;
 - a base arranged parallel to said trough;
 - a vibrator mounted to said base to vibrate said base;
 - a plurality of leaf springs spaced apart along a length of said trough and arranged along both of said side walls, each leaf spring extending from said base to said

trough, said leaf springs each connected at one end to said base and at an opposite end to said trough at one of a plurality of reinforced connections; and

said reinforced connections each including an L-shaped bracket plate welded to one of said side walls and to said bottom wall, closely fitting over said edge defined by said one side wall and said bottom wall, and a spring-mounting block fastened to said spring mounting bracket and to said leaf spring.

2. The device according to claim **1**, wherein said spring mounting block is tilted to the vertical direction and said leaf spring connected thereto is tilted to the vertical direction to flushly mate with said spring mounting block.

3. The device according to claim **1**, wherein said spring-mounting block comprises a hole therethrough for bolt connection to said leaf spring connected thereto.

4. An elongate trough supported on a plurality of springs extending from a base, comprising:

- a sheet metal bottom wall and sheet metal sidewalls connected thereto and extending upwardly and longitudinally of the trough, said bottom wall and said sidewalls forming a U-shape;

- a plurality of spring support brackets, each having a vertical leg and a horizontal leg which are connected respectively to one of said sidewalls and said bottom wall, each said bracket having a spring mounting block extending therefrom and being connectable to one of the plurality of springs, said horizontal leg resisting bending stress within said bottom wall and said vertical leg resisting shear stress in said respective one sidewall.

5. The trough according to claim **4**, wherein said spring mounting block is tilted to the vertical direction and the spring connected thereto is tilted to the vertical direction to flushly mate with said spring mounting block.

6. The trough according to claim **4**, wherein said spring-mounting block comprises a hole therethrough for bolt connection to the spring connected thereto.

7. The trough according to claim **4** wherein each said bracket is welded to said respective one sidewall and to said bottom wall.

8. The device according to claim **1**, wherein said spring mounting block is tilted to the vertical direction and said leaf spring connected thereto is tilted to the vertical direction to flushly mate with said spring mounting block, and wherein said spring-mounting block comprises a hole therethrough for bolt connection to said leaf spring connected thereto.

9. The trough according to claim **4**, wherein said spring mounting block is tilted to the vertical direction and the spring connected thereto is tilted to the vertical direction to flushly mate with said spring mounting block, wherein said spring-mounting block comprises a hole therethrough for bolt connection to the spring connected thereto, wherein each said bracket is welded to said respective one sidewall and to said bottom wall.

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